REMARKS/ARGUMENTS

I. Introduction

Claims 42-53 were previously canceled. Claims 1-41 and 54-68 are now pending. Claims 1-28 and 54-68 stand allowed. Claims 29-41 stand rejected. Claim 29 was amended to correct a typographical error. In the current amendment, in claim 29 the word "filed" has been changed to "field".

Applicants' representative thanks the Examiner for the opportunity to discuss this application during the May 20, 2005 interview summarized below.

In view of the arguments made during the telephone interview, it is respectfully submitted that the rejected claims are patentable over the applied references. Since the reasons the claims are allowable over the prior art were discussed during the interview, Applicants will rely on the summary of Applicants arguments to restate for the record, in response to the office action, the reasons claims 29-41 are patentable.

Applicants note for the record that the interview summary included in the last amendment indicated that the date of the earlier in person interview occurred in February 2004. The actual date was in February 2005 with the 2004 date being an unintentional typographical error.

II. Interview Summary

This interview summary is presented in the format suggested by the Patent Office.

1. **Application Number: 10/020,703**
2. **Name of Applicants: John G. N. HENDERSON, Carl SCARPA**
3. **Name of Examiner: Dao L. Phan**
4. **Date of Interview: May 20, 2005**
5. **Type of Interview:** Telephonic
6. **Name of Participants:**
   Examiner: Dao L. Phan;
   Applicants' Rep: Michael P. Straub
7. **Exhibit(s) Shown: None**
8. **Claims discussed:** Rejected claims 29-41
9. **Prior Art Discussed:** The prior art applied in the Office Action was discussed.
10. **Proposed Amendments discussed:** None
11. **Discussion of General Thrust of the Principal Arguments**

The Examiner rejected claims 29-41 under 35 USC 102(b) as being anticipated by the Reinhardt et al. patent (U.S. Patent No. 5,532,706) or the Bayne patent (U.S. Patent No 5,351,060) or the Watkins et al. patent (U.S. Patent No. 4,859,991).

As discussed during the telephone interview, claim 29 recites:

> **A multi-bit antenna control *signal*** used for controlling characteristics of an antenna, the control signal comprising:
>
> ***a first signal component* including one of: a direction field including antenna pattern direction control information, a gain field including antenna gain information, a channel number field including a channel number, and a polarization field including antenna polarization information**; and
>
> ***a second signal component*, said second signal component including a field which is different from the field included in said first signal component, said second signal component including one of:** a direction field including antenna pattern direction control information, a gain field including antenna gain information, a channel number field including a channel number, and a polarization field including antenna polarization information.

As discussed during the interview, claim 29 requires a single control signal, the recited **multi-bit antenna control *signal***, which includes ***two* different fields**, which are **components of a single control signal**. The two different information fields may include information such as a direction field including antenna pattern direction control information, a gain field including antenna gain information, a channel number field including a channel number, and a polarization field including antenna polarization information.

The Examiner's rejections are based on references which disclose **multiple** signals, with **different signals** being used to convey information of the type, which for the sake of argument, may be of the type recited in the claim. However, by teaching the use of different

signals, one for each type of information as opposed to using different information fields within a single multi-bit signal the references actually teach away from the claimed invention. By using separate signals, the applied references avoid the need to be able to interpret and distinguish between the different fields of a single multi-bit control signal of the type recited in claim 29. Moreover, the applied references, by using different signals and communications lines to communicate the different control signals, do not get the communication efficiencies provided by the multi-bit control signal which include different information fields, recited in independent claim 29. As discussed during the interview, independent claim 35 recites at least one digital control signal including a direction information field and at least one other information field of the type recited in claim 35. Accordingly, claim 35 requires a digital control signal which includes two different information fields and is patentable for the same general reasons that claim 29 is patentable.

During the interview, after making the general argument with regard to patentability discussed above, Applicants' representative addressed the individual patents used to reject the claims.

With regard to the Reinhardt et al patent it was noted that beam forming computer 28 generated individual phase control signals and attenuation control signals. This is clear from Fig. 2 which was relied upon by the Examiner to reject the claims. The corresponding description of figure 2 which shows two separate signal

lines extending from the beam forming computer 28 further support Applicants assertion that the Reinhardet et al. patent does not teach or disclose a single multi-bit control signal with at least two different information fields of the type recited in claims 29 and 35. By teaching the use of two separate control signals, communicated over separate communications lines, the Reinhardt et al. patent teaches away from using a **single multi-bit control signal with at least two different information fields.** Accordingly, it was submitted that the Reinhardt et al. patent did not disclose and actually taught away from the control signal recited in claims 29 and 35.

With regard to the Bayne patent a review of the patent, including Fig. 10a and 12, reveals the use of **different** signals for horizontal (azimuth) and vertical (elevation) control. Thus, like the Reinhardt patent the Bayne patent teaches the use of different signals as opposed to a single multi-bit signal including different information fields. The portions of the reference cited by the Examiner, including Fig 7, do not show a **single** control signal with multiple fields as recited in claims 29 and 35. Accordingly, the Bayne patent fails to anticipate or render obvious claims 29 or 35.

With regard to the Watkins et al. patent, it was noted that the Examiner appeared to be **citing two distinct and separate signals.** In rejecting the claims based on the Watkins et al. patent the Examiner relied on what the Examiner asserted was antenna polarization information (30 or 35) and a second signal component

corresponding to element U203B. As discussed during the interview signal 30 and element 35 are shown in Fig. 2B while U203B is shown in Fig. 8 which corresponds to the comb band pass filter 58 shown in Fig. 2A. These elements, which are separated from one another by a fair amount of circuitry, clearly receive and generate **different signals.** There is no single control signal common to the elements cited by the Examiner which includes two different information fields. Accordingly, as with the two other references, the Watkins et al. patent fails to disclose or suggest use of a **single control signal** with **multiple fields** as recited in the claims 29 and 35. Accordingly, the Watkins et al. patent fails to anticipate or render obvious claims 29 or 35.

Applicants' representative also argued that the Examiner failed to address the features recited in the dependent claims. It was submitted that the rejected dependent claims were patentable for the same reasons as the independent claims but also for the features recited in the individual dependent claims. It was requested that in any future office action the Examiner explicitly address the features of the dependent claims in addition to the independent claims.

12. **Other Pertinent Matters Discussed:** None

13. **General Results/Outcome of Interview**

The Examiner agreed that Applicants' arguments regarding the applied references appeared to overcome the rejection but the Examiner indicated that she would

consider the matter further upon submission of a formal written response.

III. Claims 29-41 Are Patentable

Claims 29-41 are patentable for the reasons discussed in detail in §11 of the interview summary set forth above.

In summary, it is noted that claims 29-41 are patentable because the applied references disclose the use of distinct and separate control signals. This is in sharp contrast to the single multi-bit control signal recited in claim 29 which includes different fields within a **single** control signal. Claim 35 is patentable for the same general reasons claim 29 is patentable over the applied references. Dependent claims 30-34 and 36-41 are patentable for the same reasons as the independent claims from which they depend but also for the additional features which they recite.

IV. Conclusion

In view of the foregoing amendments and remarks, the Applicants respectfully submit that the pending claims are in condition for allowance. Accordingly, the Applicants request that the Examiner pass this application to issue. Should the Examiner issue any new rejections it is respectfully requested that the Examiner address the features of the dependent claims in addition to the features of the independent claims.

Applicants request that the Examiner contact Applicants' undersigned representative by phone if any

outstanding issues remain to be resolved to place the application in condition for allowance.

Respectfully submitted,

MAY 26, 2005

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5/26/2005
Date